

DIGGING DEEPER INTO THE DATA



Six Analyses You Can Do To Initiate or Refocus Change Efforts;

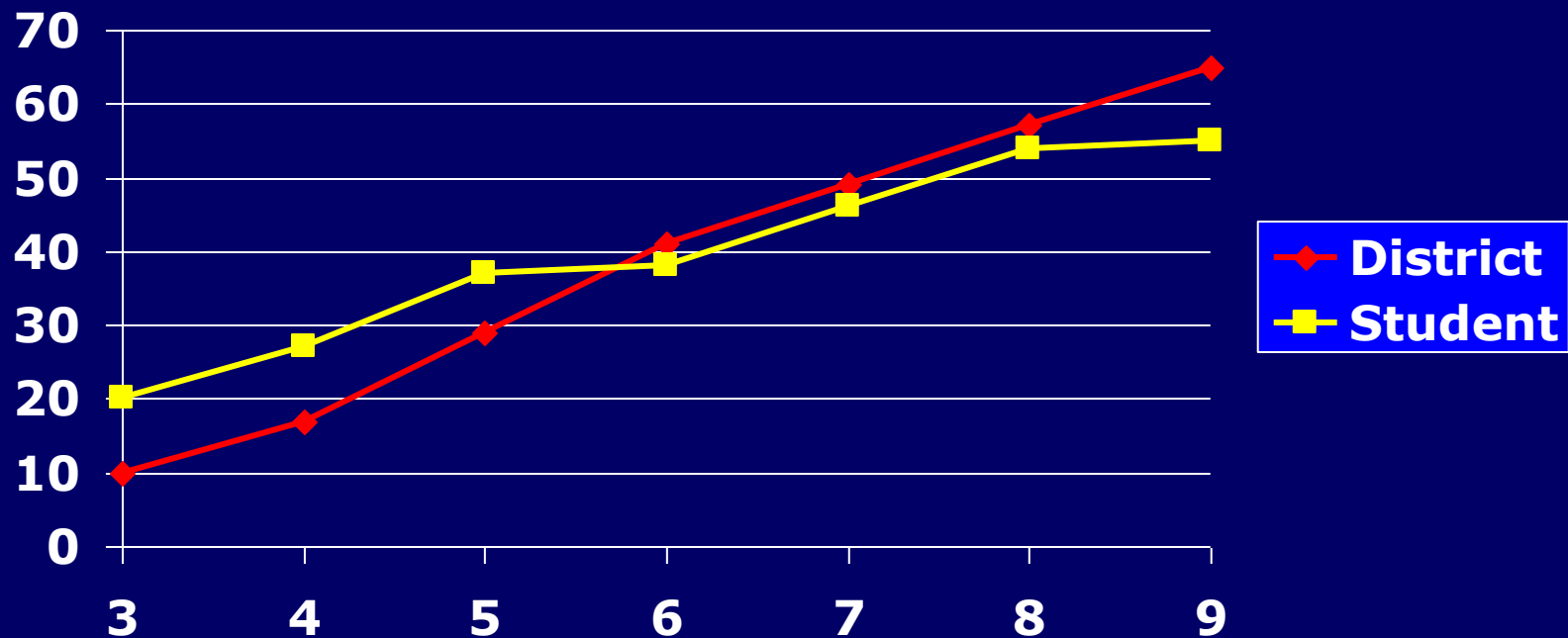


#1. Classroom Value-Added Analyses



How This Research Got Started

District versus Student



**Now, 15 years of research
showing how much
teachers matter...and how
big the differences among
them really are.**

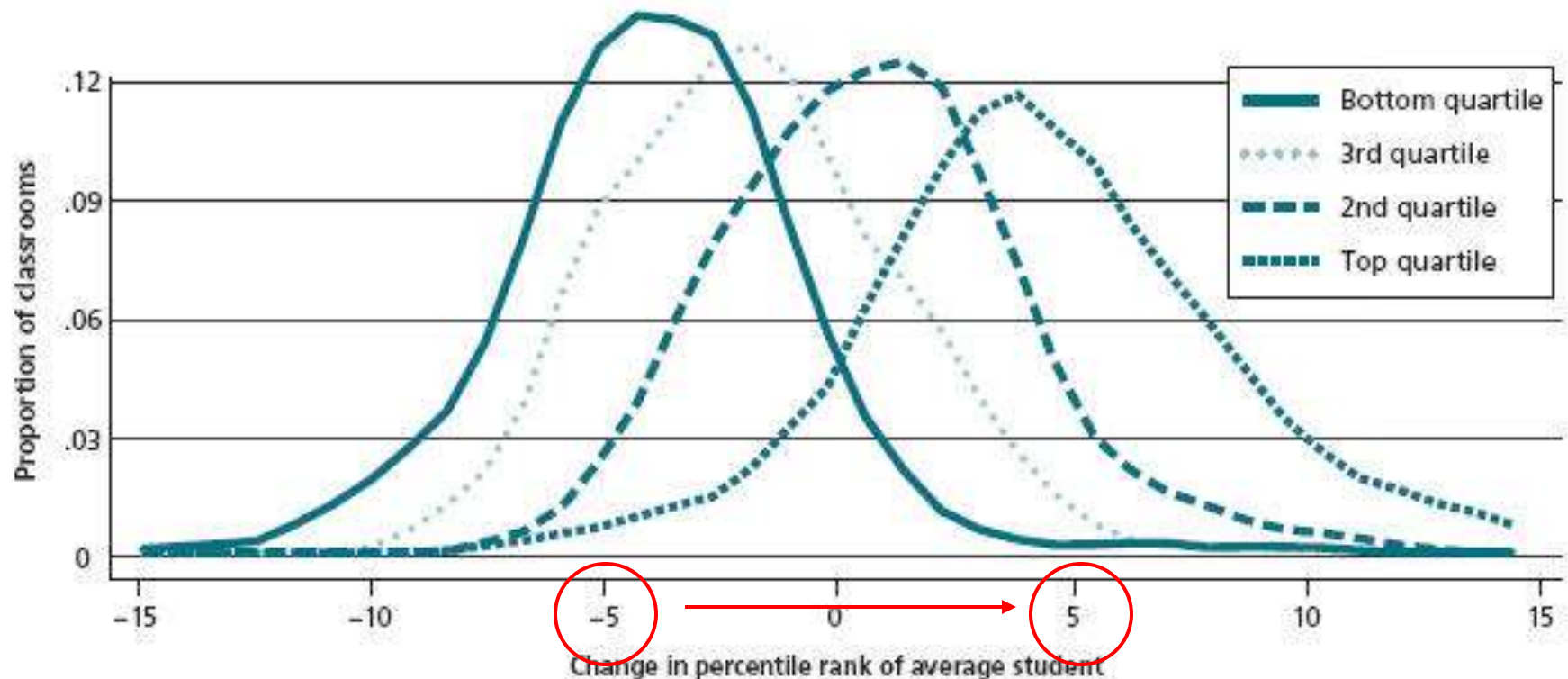
Research Now Clear: Huge Differences in Teachers' Effectiveness

**An average student assigned to a
bottom quartile teacher lost 5
percentile points while
a demographically similar student
with a top quartile teacher
gained 5 percentile points.**



10 Percentile Point Average Difference Between Top and Bottom Teachers

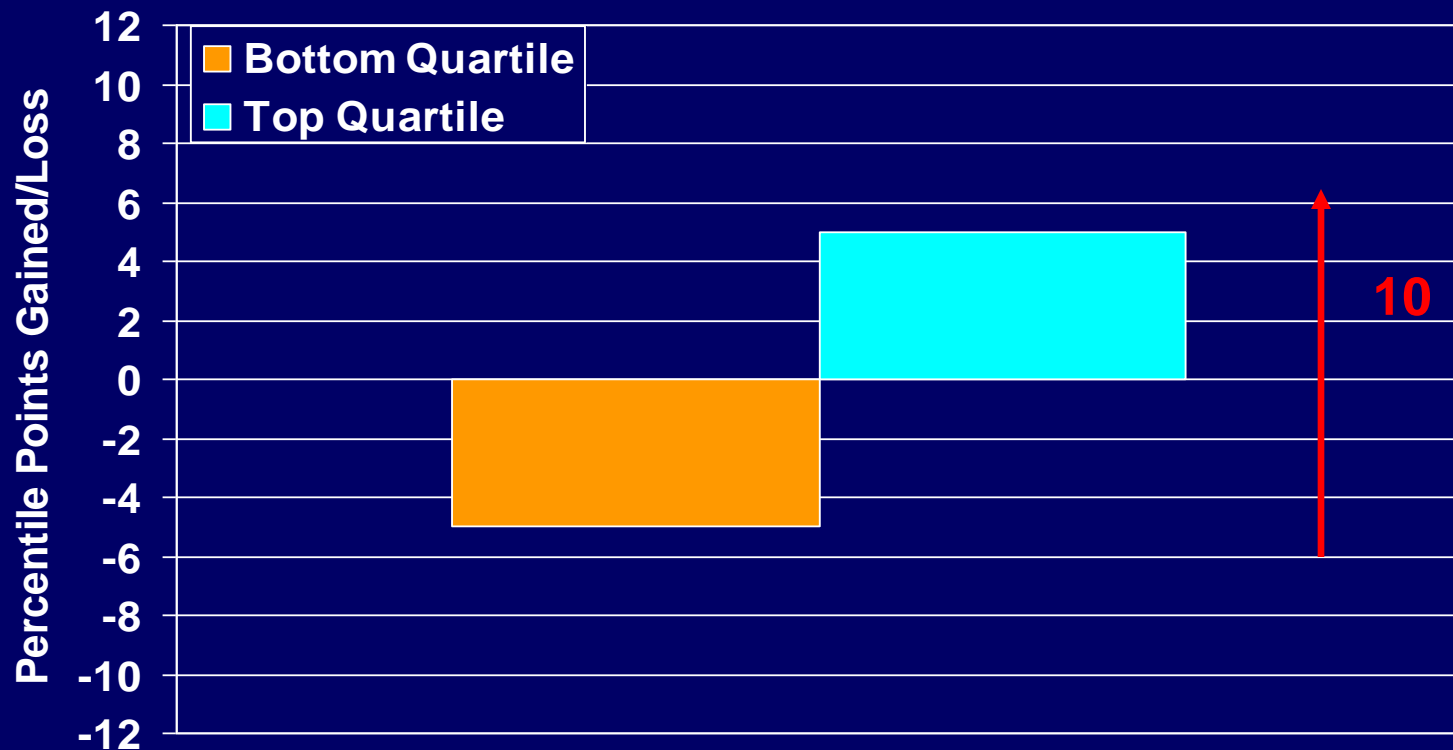
Figure 2. Teacher Impacts on Math Performance in Third Year By Ranking after First Two Years



Note: Classroom-level impacts on average student performance, controlling for baseline scores, student demographics, and program participation. LAUSD elementary teachers, < 4 years' experience.

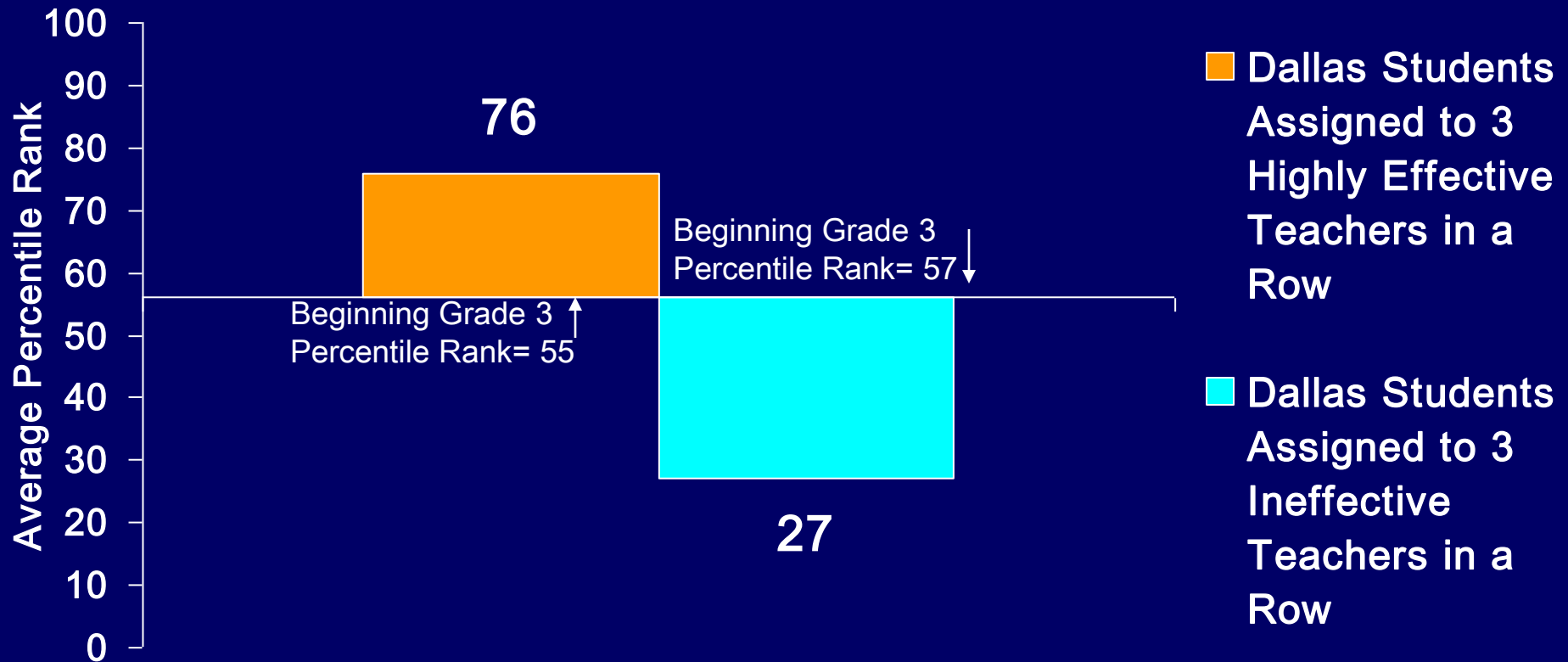


Comparing the Average Student in the Classrooms of Bottom Quartile and Top Quartile Teachers



**Those effects
accumulate.**

Cumulative Teacher Effects On Students' Math Scores in Dallas (Grades 3-5)



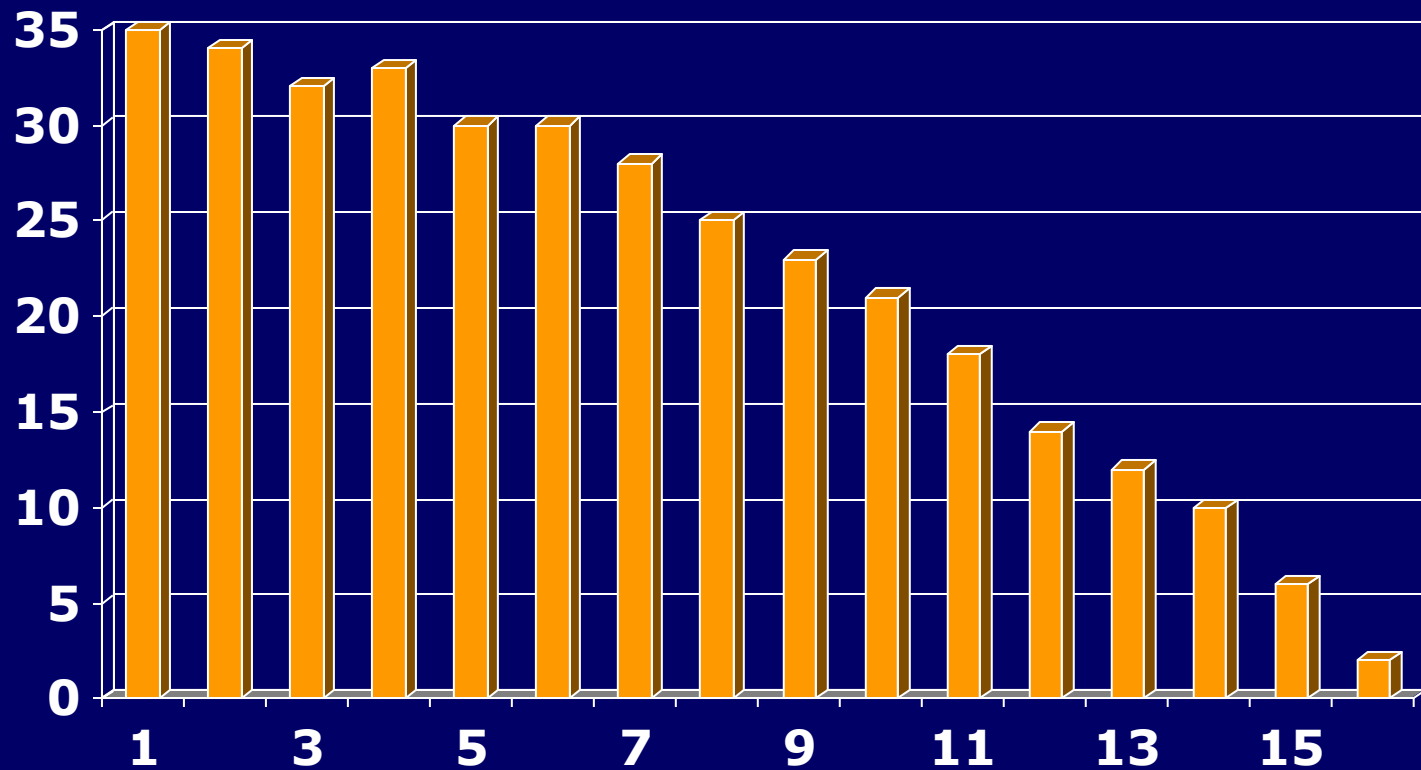
“Massive Impact”

“...having a top-quartile teacher rather than a bottom quartile teacher four years in a row would be enough to close the black-white test score gap.”

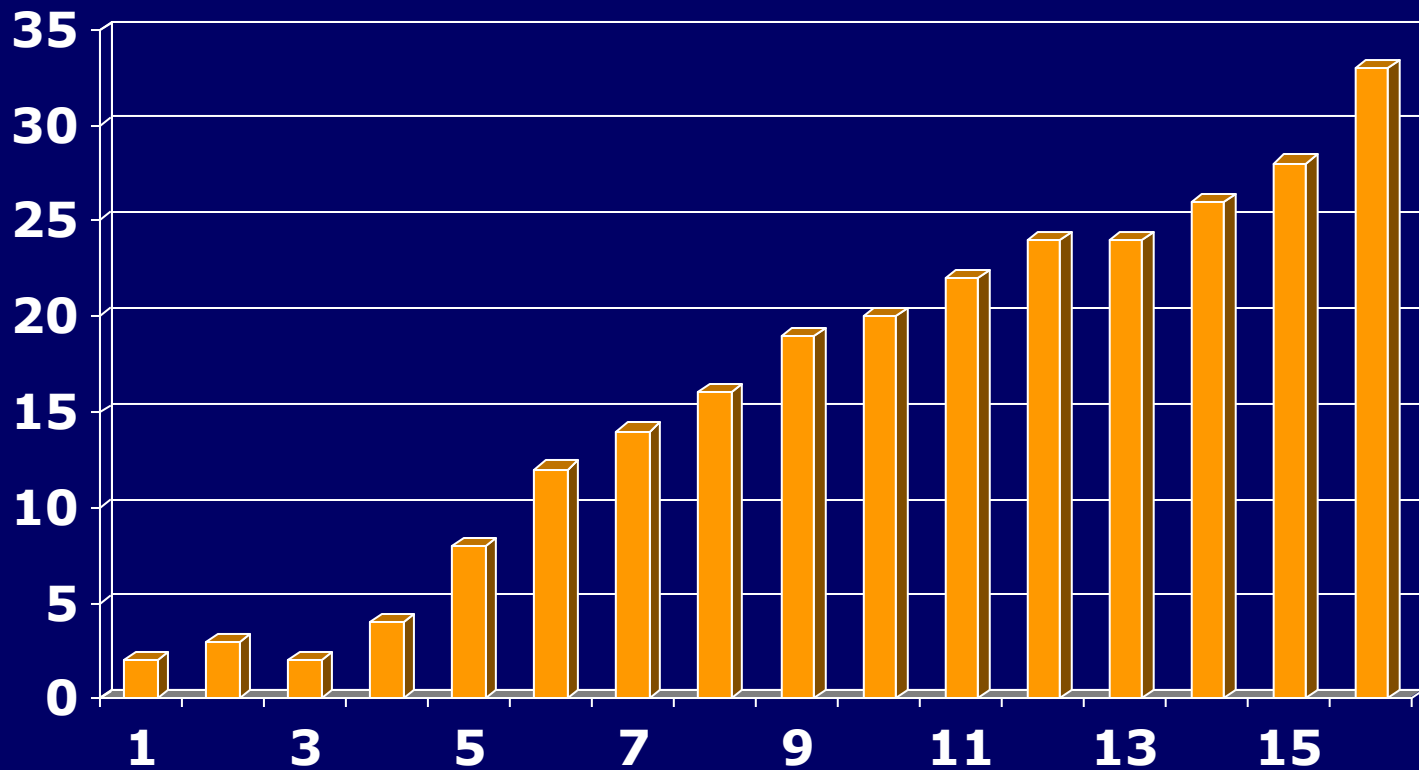


**Turns out that teachers
also have different
patterns of
effectiveness**

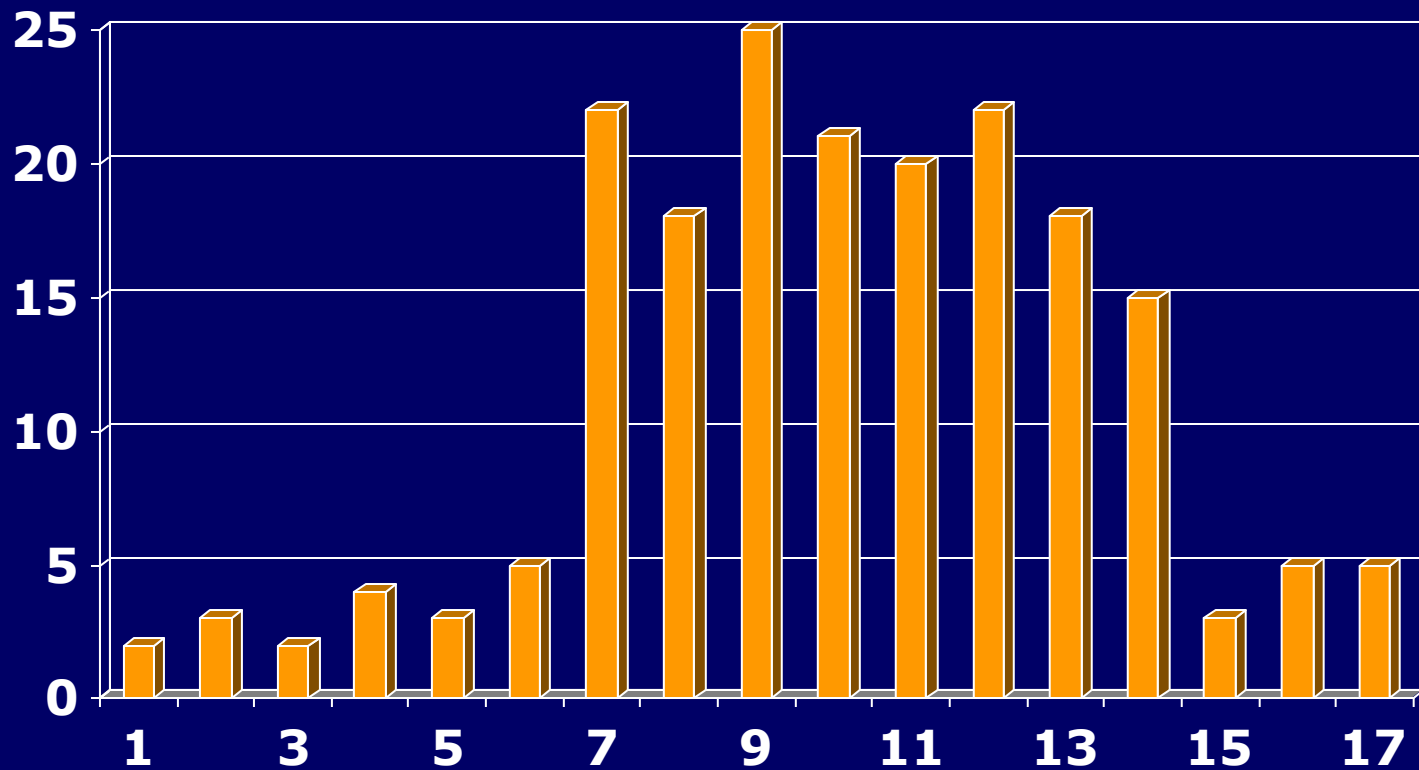
Student Growth in One Classroom: Teacher A



Student Growth in One Classroom: Teacher B



Student Growth in One Classroom: Teacher C



Value-Added Data Systems

- ✓ **Statewide in TN for 15 years;**
- ✓ **Dallas ISD for 10 years;**
- ✓ **Ohio: Battelle for Kids has underway in one-third of all districts (and will be used to evaluate ed schools);**
- ✓ **Louisiana: using to evaluate ed schools;**
- ✓ **Pennsylvania (pilot in 10 school districts)**
- ✓ **Other districts around the**



Value-Added Resources

- ✓ **William Sanders and June Rivers, SAS in the Schools, North Carolina;**
- ✓ ***Good Teaching Matters and Real Value of Teachers,***
www.edtrust.org.



What to do with these data?

- ✓ **Self-analysis?**
- ✓ **Assignment of teachers to students?**
- ✓ **Distribution of teaching talent among schools?**
- ✓ **Professional development and coaching?**
- ✓ **Tenure? Evaluation?**



#2. Who's Teaching Whom?

- ✓ So, you don't have value-added data YET, what else can you look at?



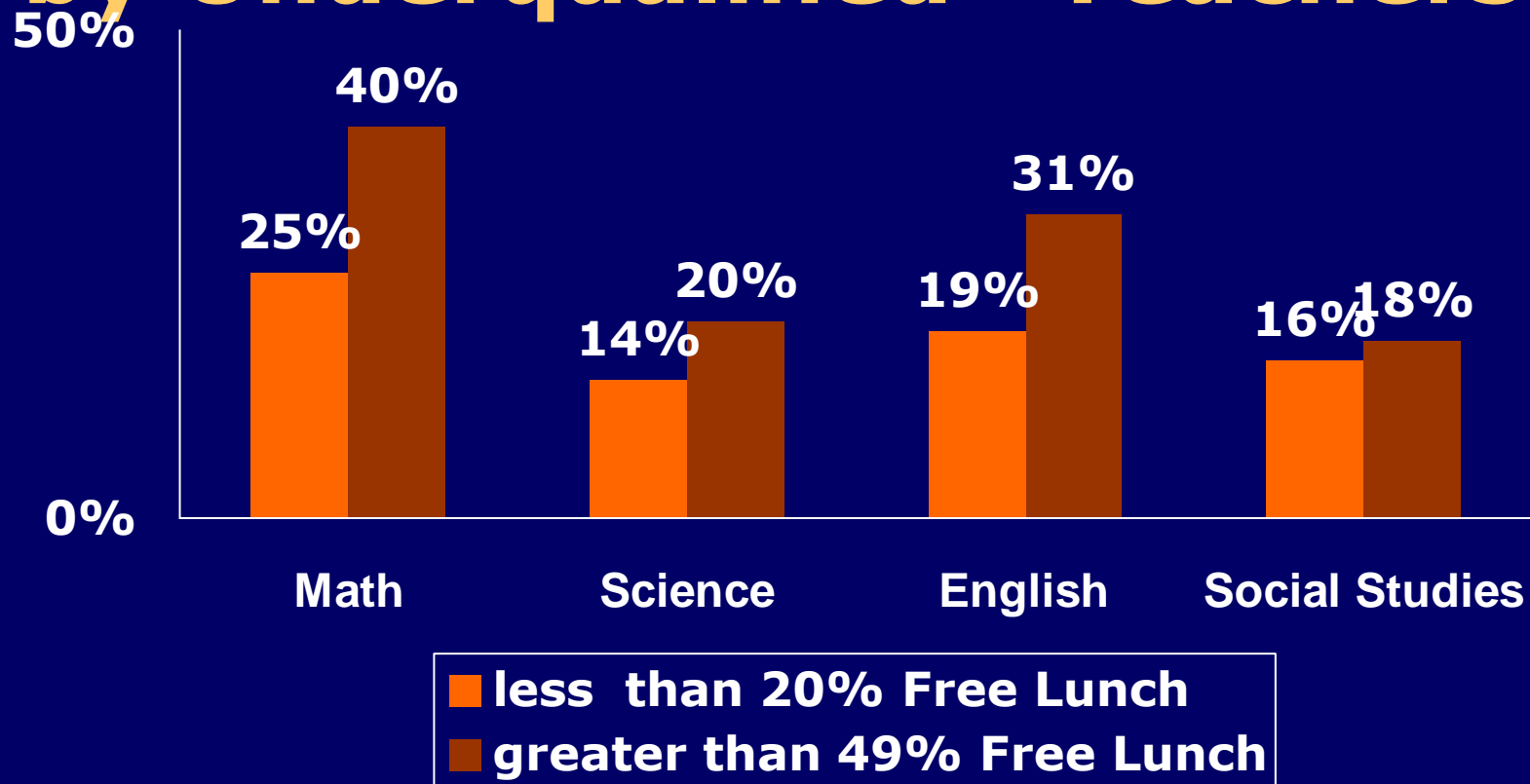
**Unlike their counterparts
in Tennessee, most school
and district leaders do not
have value-added data on
their teachers.**

**Unfortunately, none of the
measures that are readily
available tells you exactly
who is strong and who is
weak. But...**

...while researchers may quibble over the details, general consensus that strongest proxies are:

- v experience (that is, not novice);**
- v education in field (especially in secondary math, science);**
- v strong performance on licensure exam.**

Classes in High Poverty High Schools More Often Taught by Underqualified* Teachers

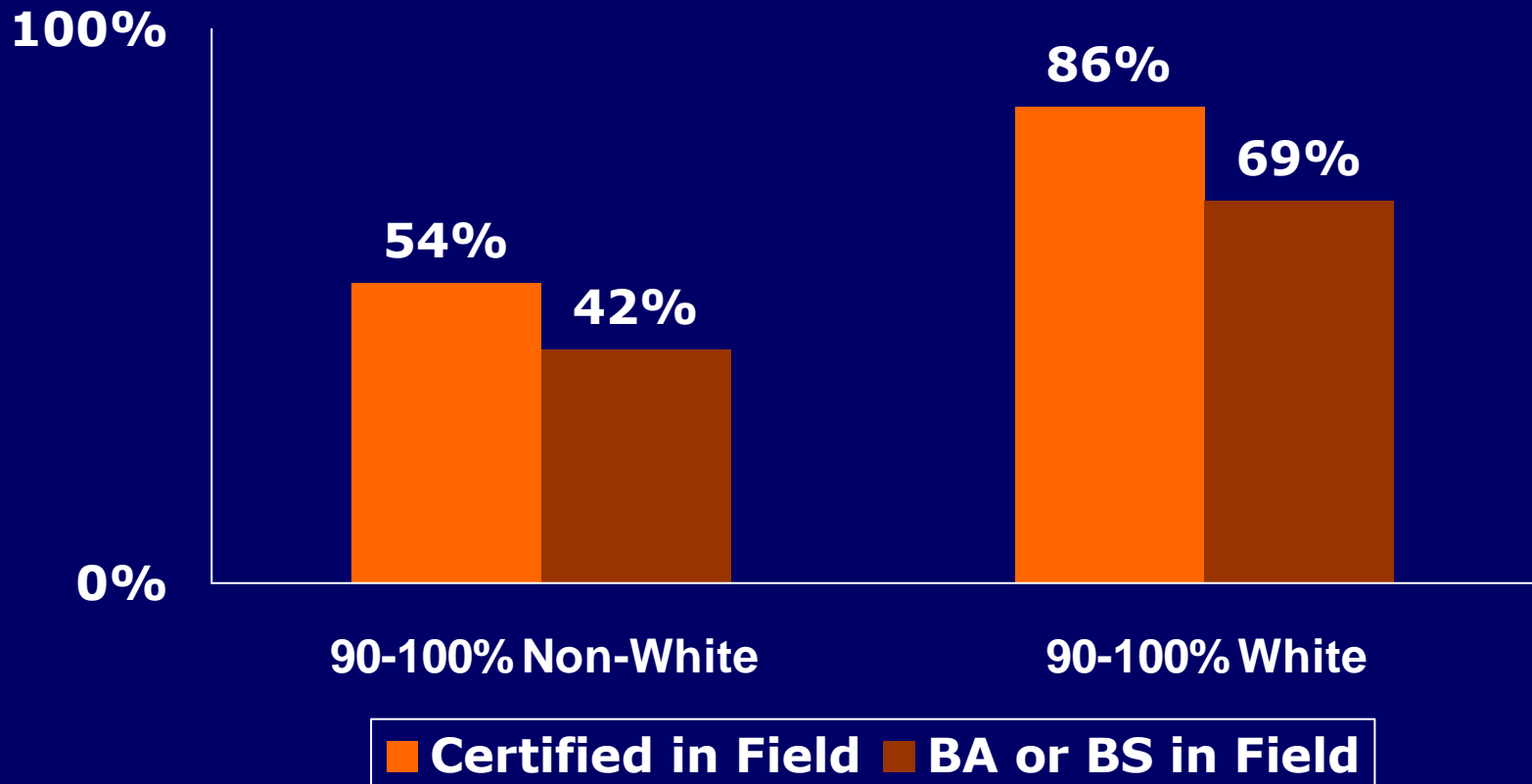


*Teachers who lack a major or minor in the field

Source: National Commission on Teaching and America's Future, *What Matters Most: Teaching for America's Future* (p.16) 1996.



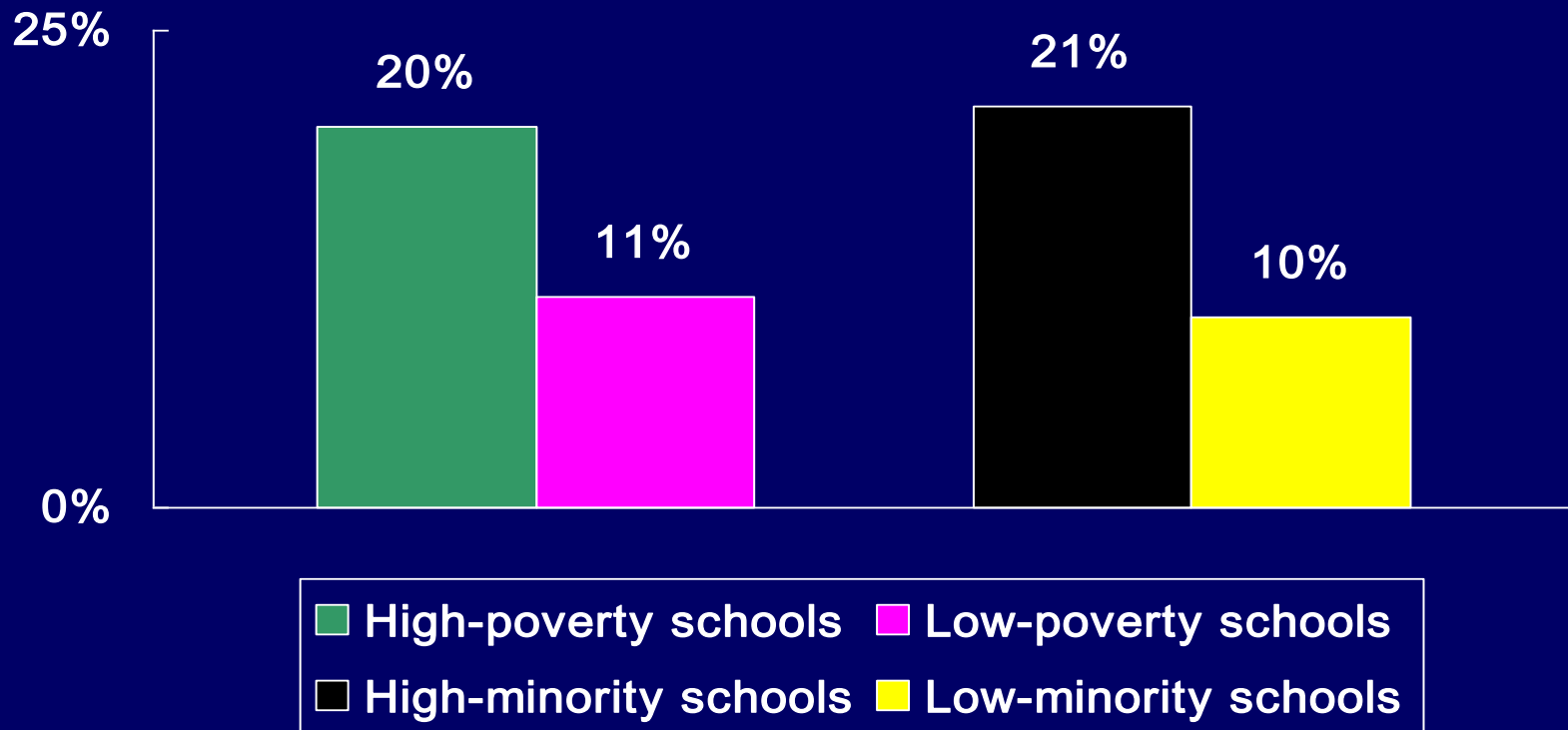
Math and Science Classes of Mostly Minority Students Are More Often Taught by Underqualified Teachers



Source: Jeannie Oakes. *Multiplying Inequalities: The Effects of Race, Social Class, and Tracking on Opportunities to Learn Mathematics and Science* (Rand: 1990)



Poor and Minority Students Get More Inexperienced* Teachers



*Teachers with 3 or fewer years of experience. "High" and "low" refer to top and bottom quartiles.
Source: National Center for Education Statistics, "Monitoring Quality: An Indicators Report," December 2000.



Poor Students Attend Schools with Higher Turnover

In 47 of the 50 largest districts in Texas (94 percent), the five-year average teacher turnover was greater in the highest-poverty schools than in the lowest-poverty schools.



Same Patterns within Schools

- ✓ **the most experienced and best educated teachers: who are they teaching**
- ✓ **student loads: AP vs. “Remedial” courses**



Regular Team Sample

Subject	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Total Students
Comm. Arts	Prep	CA 22	CA 29	CA 26	Lunch/ SSR	CA 24	CA 28	CA 25	154
Social Studies	SS 25	SS 25	SS 27	SS 23	Lunch/SSR	SS 27	SS 27	Prep	154
Science	Science 27	Prep	Science 26	Science 29	Lunch/SSR	Science 19	Science 26	Science 27	154
Math	Math 25	Math 23	Math 26	Math 27	Lunch/SSR	Math 28	Prep	Math 27	154
World Language	WLang 21	WLang 27	WLang 25	WLang 24	Lunch/SSR	Prep	WLang 28	WLang 29	154



Pre-IB Team Sample

Subject	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Total Students
Comm. Arts	Prep	Pre-CA 9	CA 21	Pre-CA 25	CA 17	Lunch/SSR	CA 14	Pre-CA 26	112
Social Studies	SS 15	SS 21	SS 14	Pre-Am History 24	Pre-Am History 12	Lunch/SSR	Prep	Pre-Euro History 26	112
Science	Pre-Sci 7	Prep	Pre-Sci 27	Science 21	Pre-Sci 26	Lunch/SSR	Sci 15	Sci 14	110
Math	Math 13	Math 13	Pre-Math 26	Pre-Math 14	Prep	Lunch/SSR	Pre-Math 19	Math 22	111
World Language	French 15	Spanish 8	Spanish 20	Prep	Pre-French 22	Lunch/SSR	Pre-Sp 32	Spanish 25	122



11-12 IB/AP Teacher Sample

Subject	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Total Students
Computer Science	Pre-IB 13 Visual Basic 1	Pre-IB 19	AP/IB CS 19	AP Statistics 19	Prep	Lunch	AP/IB CS 18	AP CS 3	73
Science	Prep	IB Chem 2 9	Pre-IB Chem 26	Lunch	Pre-IB Chem 25	AP Chem 16	IB Chem 10	Pre-IB Chem 20	106
IB Coord	IB Coord 0	IB Coord 0	IB Coord 0	Appl Psych Soc 15	Theory of Kn 1 11	Lunch	Prep	IB Coord 0	26
Social Studies	Study 14,19,16 SAP M,W	AP Art Hist 22	AP M AM Hist 15	AP Am Hist 27	Lunch	Prep	IB HOA-III. 5	AP M Am Hist 18	87
W Lang	Prep	Pre-IB AP Spanish 14	Spanish 4 14	Lunch	IB/AP Sp 4 14	Pre-IB/AP Sp 22	IB/AP Sp 4 12	IB/AP Sp 5 12	88



#3. Looking at student transcripts.

REMEMBER:
Single biggest predictor
post-high school success
is QUALITY AND
INTENSITY OF HIGH
SCHOOL CURRICULUM

**Cliff Adelman, *Answers in the Tool Box*, U.S.
Department of Education.**

**But are most of our kids
getting anything that
even remotely resembles
*INTENSE?***

Jake's Schedule...

Fall Schedule, Freshman Year

English

**Health Ed/Academic Foundations
(Required Course for all freshmen)**

Conceptual Physics

Volleyball



Spring Schedule, Freshman Year

Algebra

Auto Shop

Auto Shop

Volleyball



Fall Schedule, Sophomore Year

English
Spanish
Chemistry
Open Period (required)



Spring Schedule, Sophomore Year

Geometry

W. History

Volleyball

Open Period (required)



Fall Schedule, Junior Year

Mythology

Algebra

Auto Shop

Career Choices



Spring Schedule, Junior Year

Algebra 2

American History

Arts Tech

English



Senior Year?

**Too embarrassing to even
show**

Ed Trust Transcript Study: Our Current Favorites

- ✓ **Pre-Spanish;**
- ✓ **Future Studies;**
- ✓ **Exploring;**
- ✓ **Principles of PE;**
- ✓ **Teen Living;**
- ✓ **Life Management;**
- ✓ **Food Fundamentals;**
- ✓ **Winter Activities.**



Curious about your own school or system?

Pull a random sample of senior transcripts, white out the names, and take a look.

Then ask yourself: If we had to defend these before the editorial board of our local newspaper, could we????

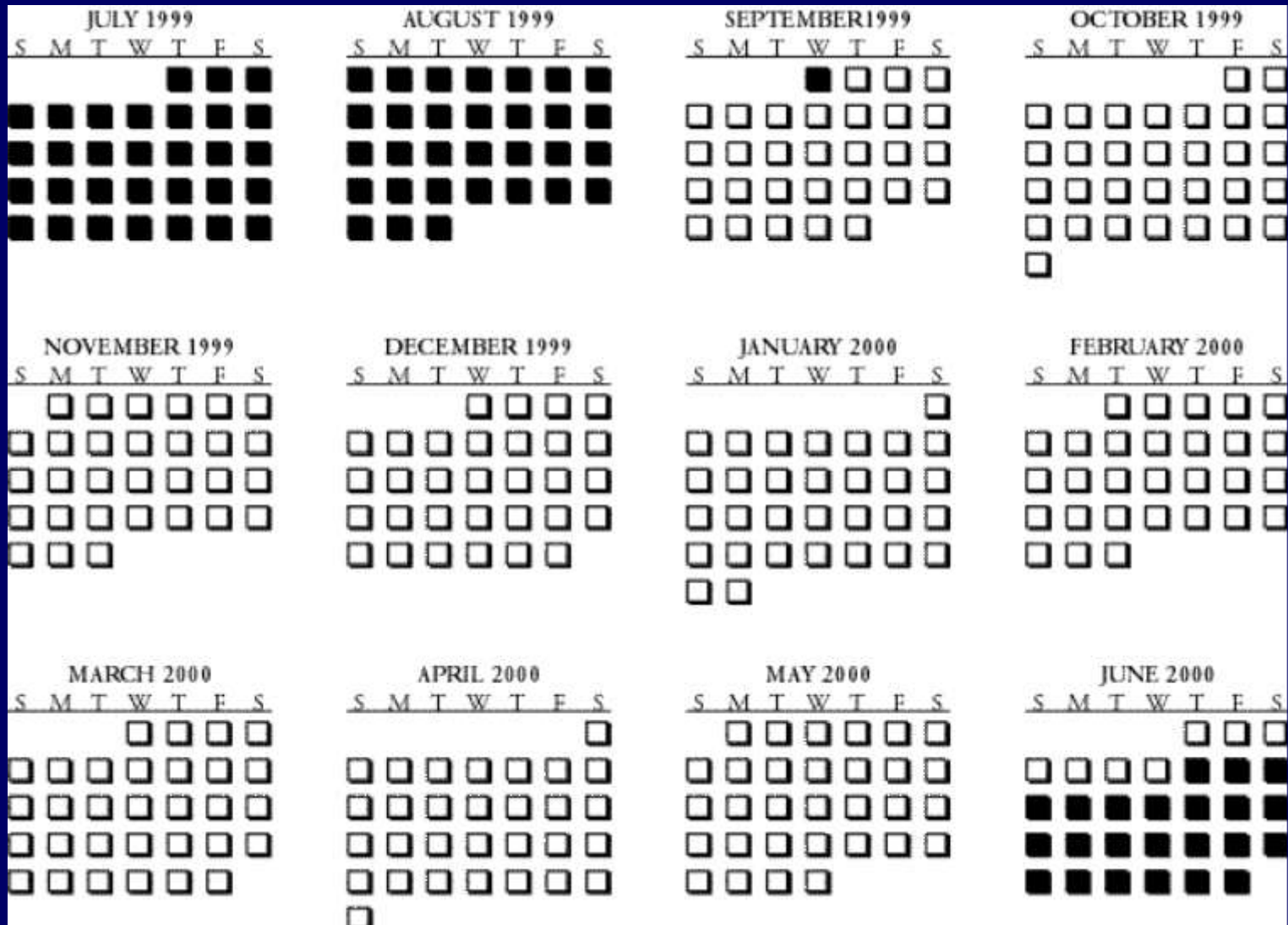
#4. What About the Matter of Time for Instruction?

The Full Year Calendar

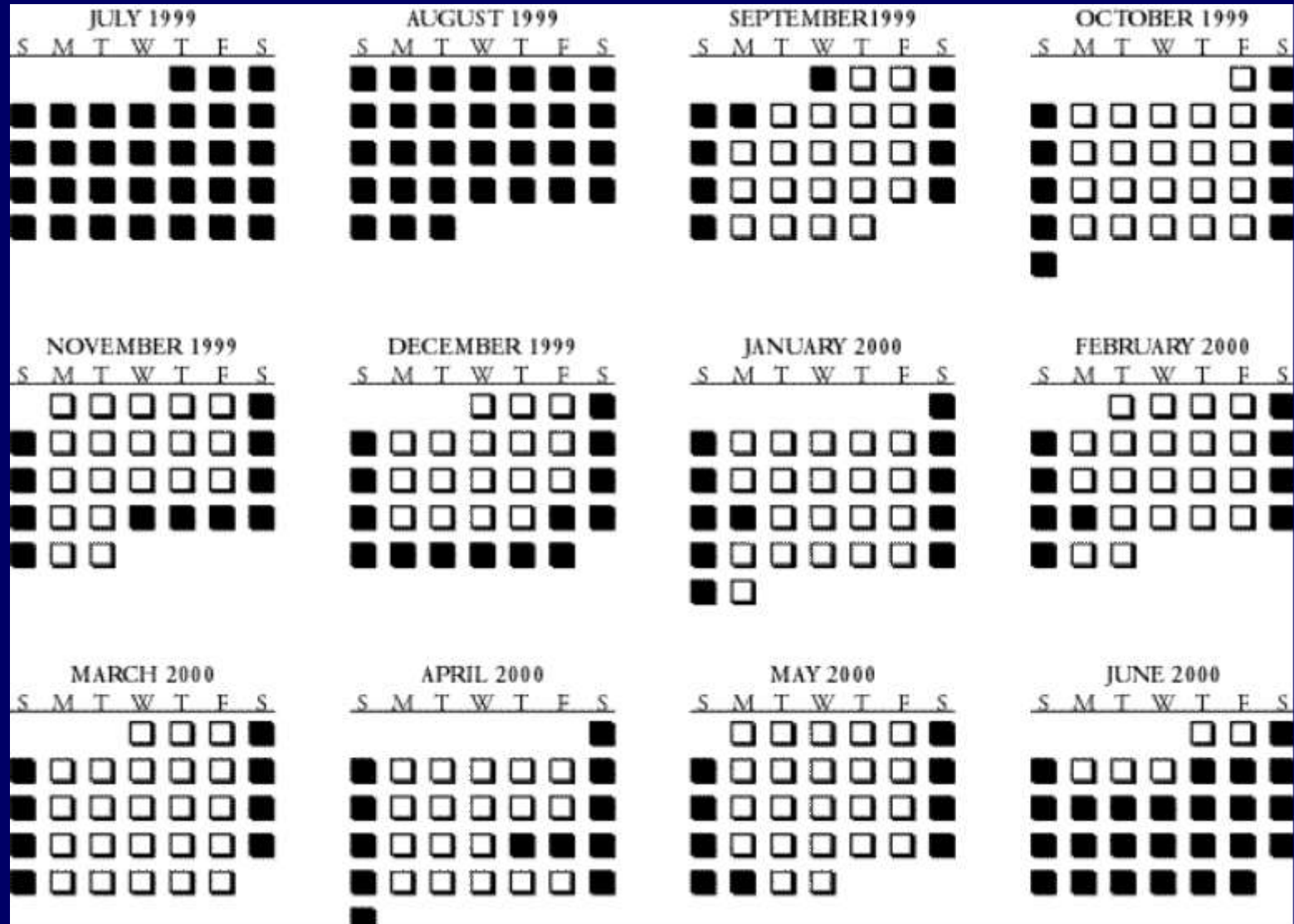
JULY 1999							AUGUST 1999							SEPTEMBER 1999							OCTOBER 1999						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S



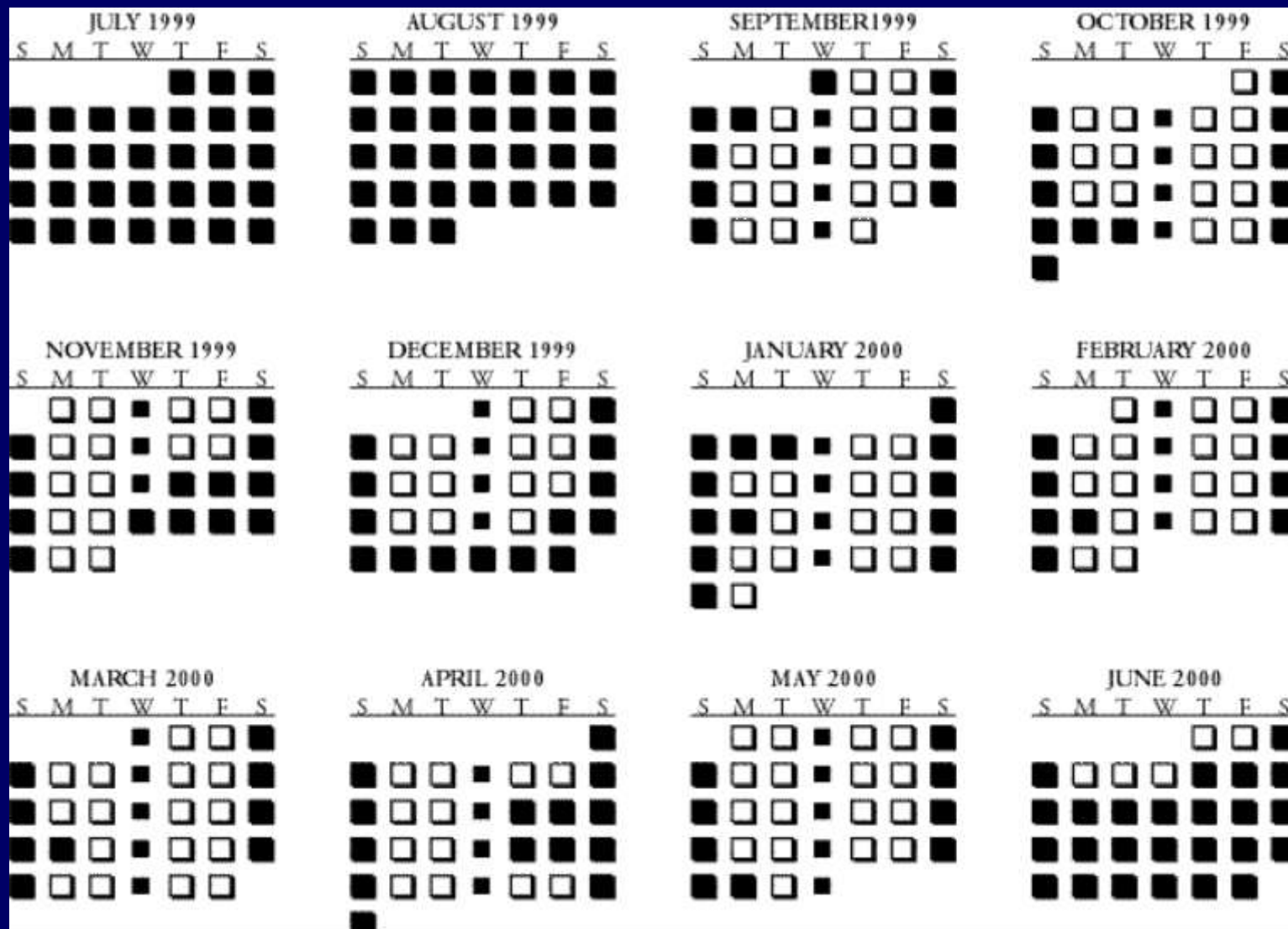
Less Summer Vacation



Less Weekends, Holidays, & Summer Vacation



Less Professional Development Days & Early Dismissal/Parent Conferences

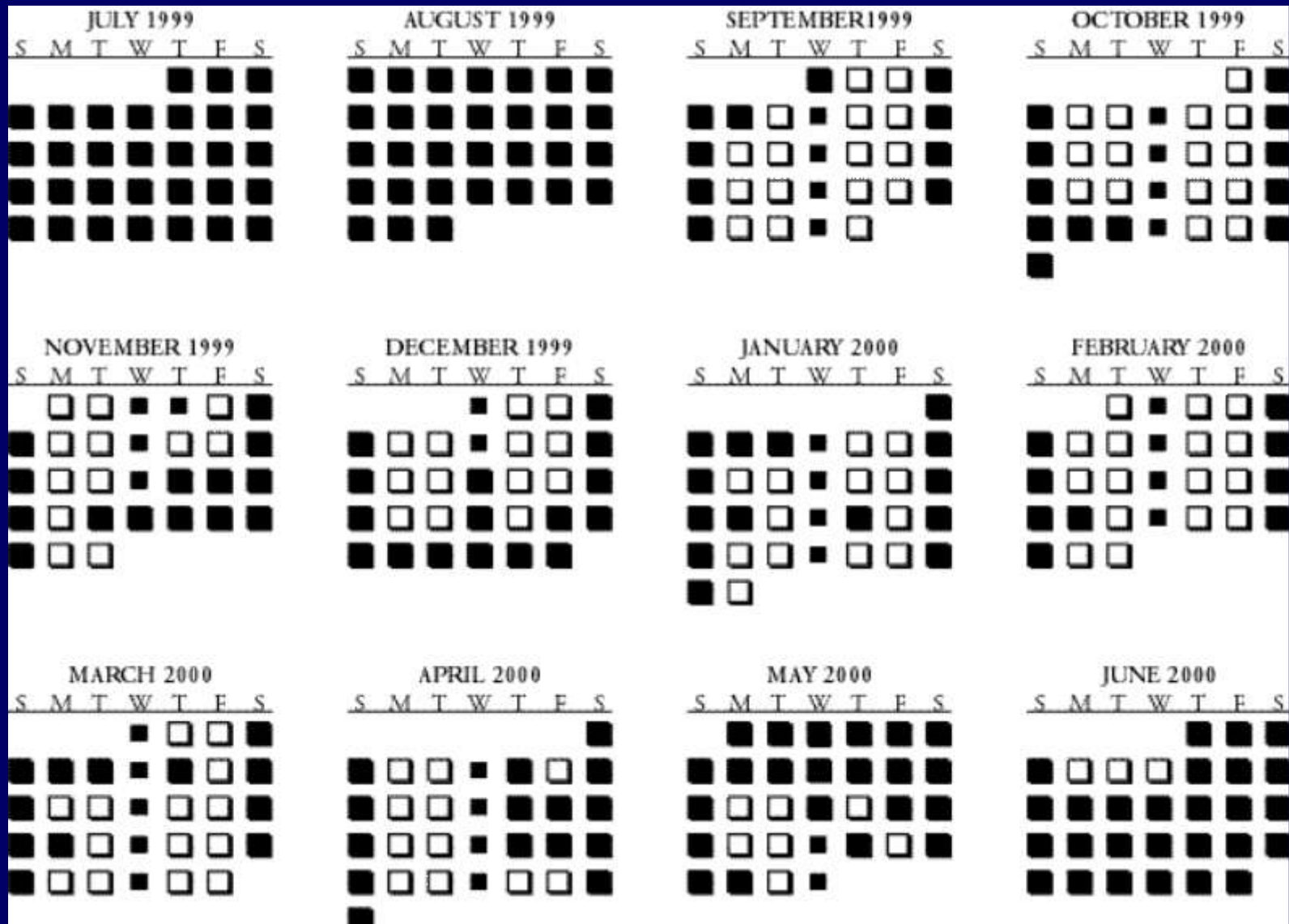


Less Class Picnic, Class Trip, Thanksgiving Feast, Christmas, Kwanzaa, Hannukkah, Awards, Assemblies, & Concerts

JULY 1999 S M T W T F S 	AUGUST 1999 S M T W T F S 	SEPTEMBER 1999 S M T W T F S 	OCTOBER 1999 S M T W T F S
NOVEMBER 1999 S M T W T F S 	DECEMBER 1999 S M T W T F S 	JANUARY 2000 S M T W T F S 	FEBRUARY 2000 S M T W T F S
MARCH 2000 S M T W T F S 	APRIL 2000 S M T W T F S 	MAY 2000 S M T W T F S 	JUNE 2000 S M T W T F S



Less State and District Testing



Calendar Analysis

Bottom Line:

Roughly 13-15 Eight-Hour
Days
Per Subject
Per Year

That's not all.

Looking at the schedule.

Instructional Time Per Course

	Block	7 Period	6 Period
Total Instructional Time Per Year	135 hours	153 hours	180 hours
Available Instructional Time (minus 20% for interruptions)	108 hours	122 hours	144 hours



Bottom Line:

**Students who take, say,
math or English in 6 period
day schedule, get one full
year of additional instruction
over those who take 4 years
in block schedule.**

College Prep as Percent of Total Instructional Time

	Block	6 Period Day
College Prep Coursework	47%	63%



**Kids Who are Behind
Need Extra Instruction**

High School?

Take, for example, the matter of reading.

**Kids who arrive behind in
reading...often simply assigned
to courses that don't demand
much reading.**

Average High School: Percent of Instructional Time in Reading Intensive Courses

Below Grade Level Students	On Grade Level Students	Advanced Students
24%	29%	35%



Surprise: Gaps Grow.

Higher Performing High Schools:

- “Behind” students spend **60** additional hours (**25%** more time) over 1 year in reading related courses)
- “Behind” students get **240** additional hours over 4 years!



In other words, high performing schools both maximize time and don't leave its use to chance.

#5. Organizing Resources for Different Results

**It's easy to fall into a
pattern of blaming poor
results on problems
"beyond our control."**

**For example, high 9th grade
failure rates generally blamed on
poor preparation, difficult
transitions.**

But...

One Colorado High School: Student/Teacher Ratio by Grade

Grade	9th	10th	11th	12th
Average number of students per teacher	30.3	16.7	11.6	12.1

Source: Jovenes Unidos & Padres Unidos; March, 2004.. Data from Colorado School Accountability Reports.



Same Colorado High School: Counselor Deployment by Grade

Grade	9th	10th	11th	12th
Number of Counselors	1	1	1	1
Number of Students	572	366	309	213

Source: Jovenes Unidos and Padres Unidos; March, 2004



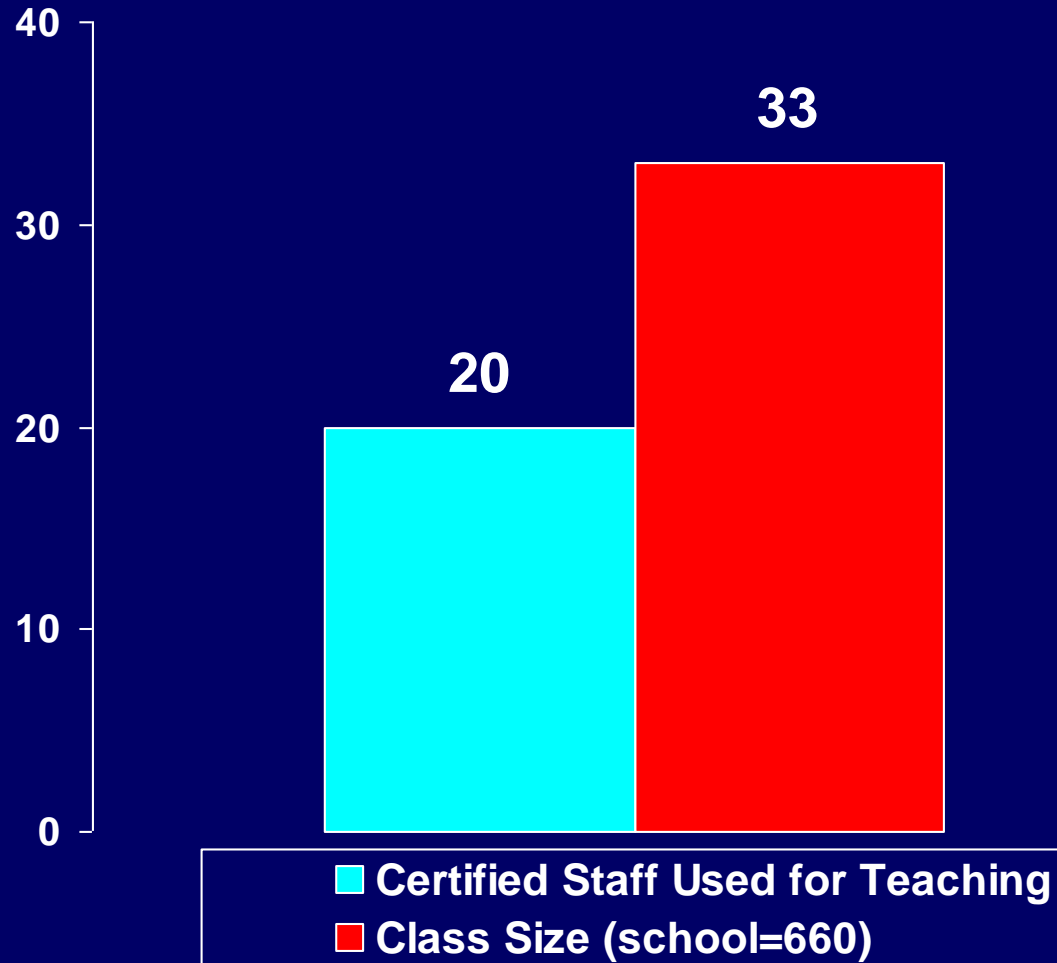
**Is this school structured
around student, or adult
needs?**

**High performing schools are
driven by student needs.**

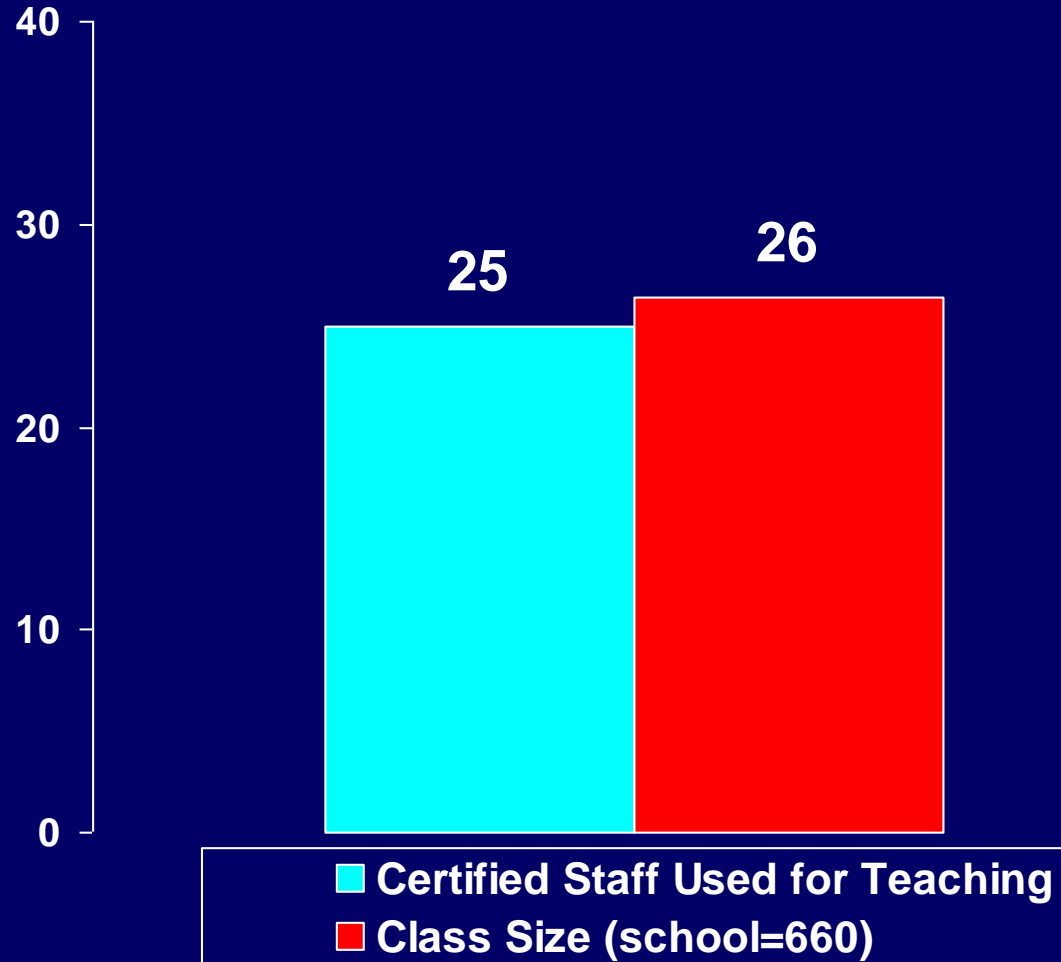
Make sense?

**Thinking about staffing
differently...for different results.**

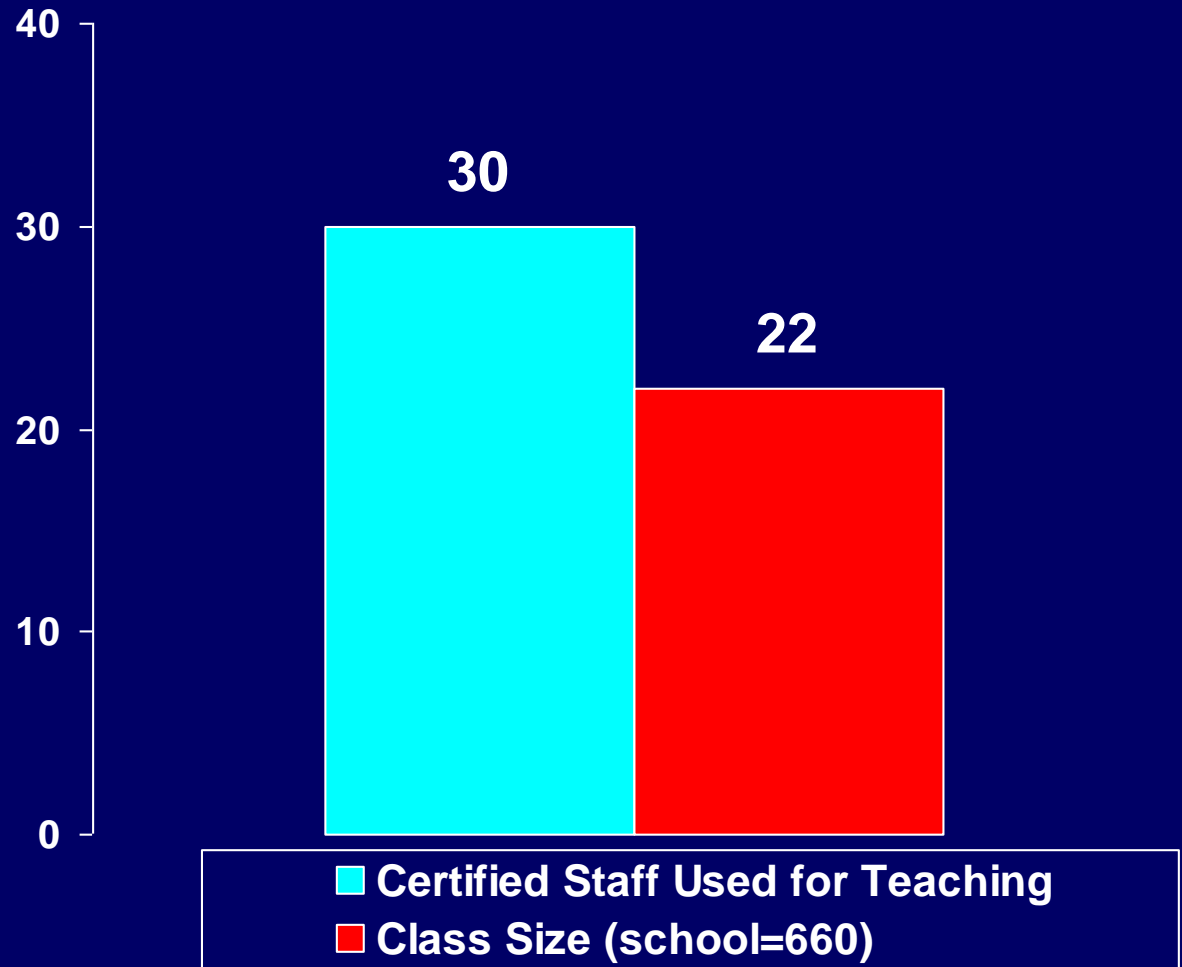
Staffing Decisions and Class Size Impacts: Core Subject Teachers Only



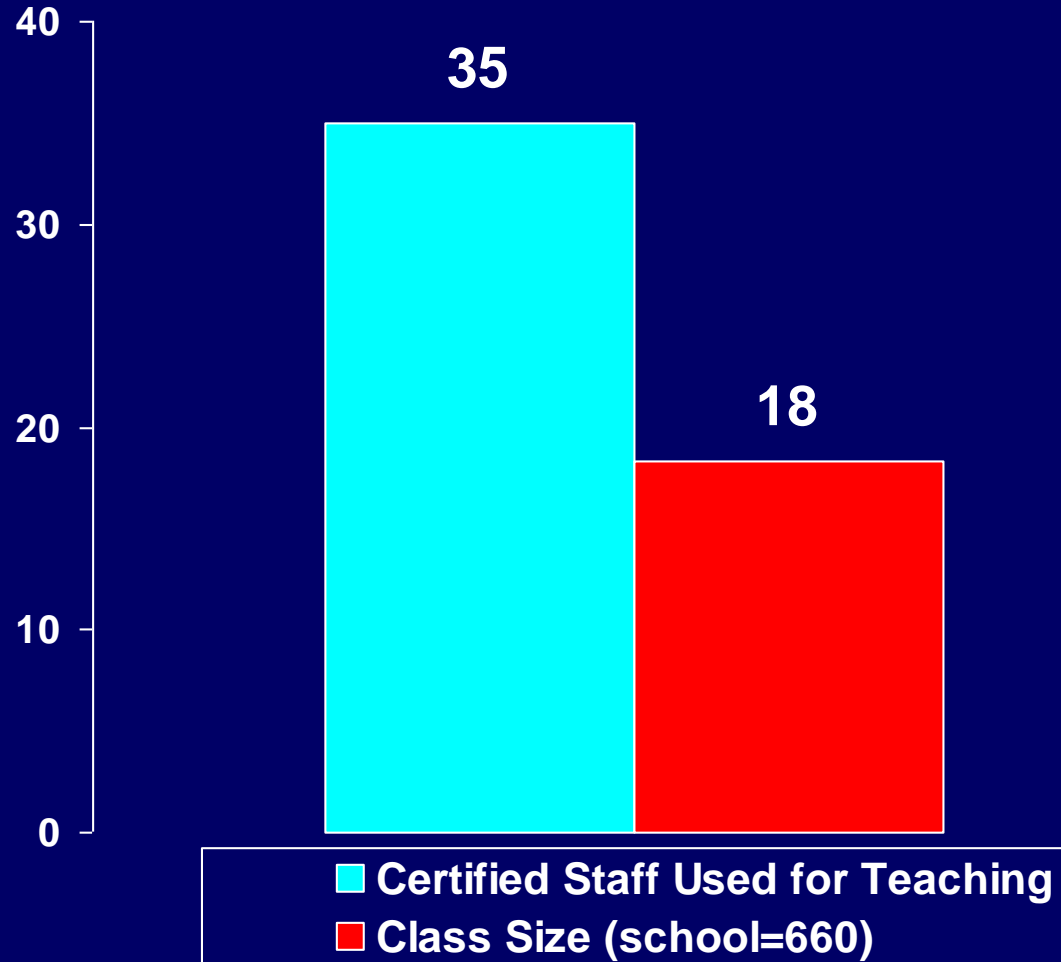
Staffing Decisions and Class Size Impacts: Including SPED Specialists



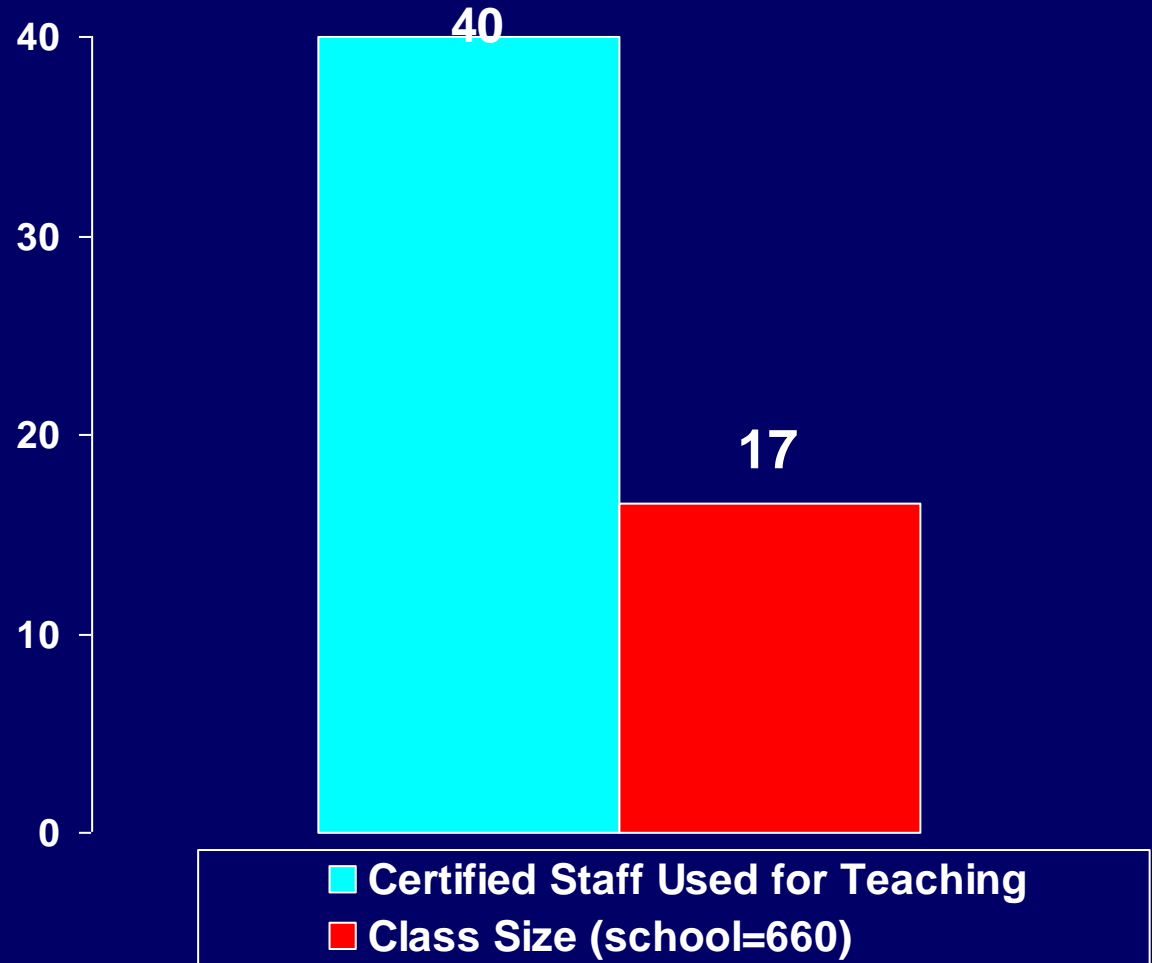
Staffing Decisions and Class Size Impacts: Including Title I and ELL Specialists



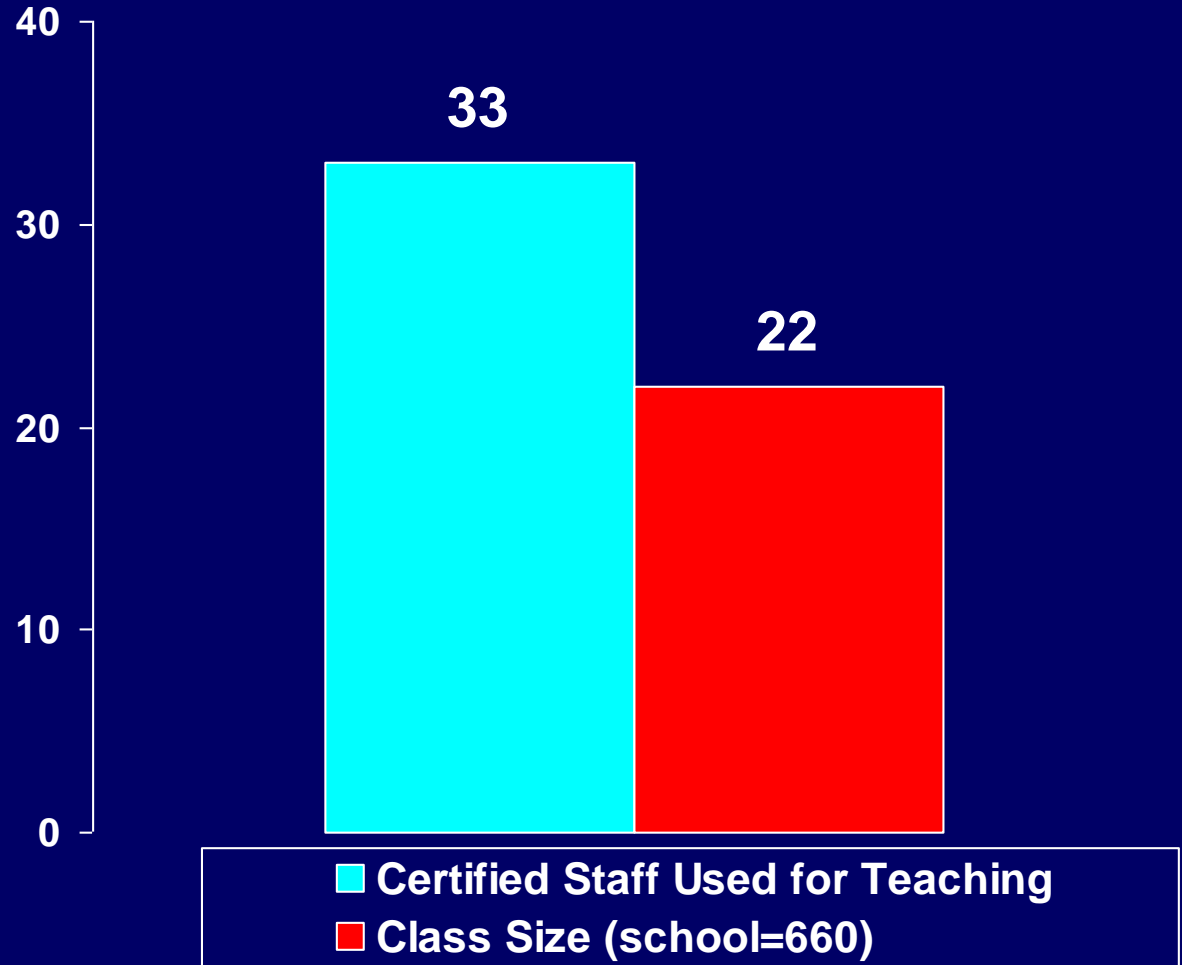
Staffing Decisions and Class Size Impacts: Including Enrichment Teachers



Staffing Decisions and Class Size Impacts: Including Other Certified FTEs



Staffing Decisions and Class Size Impacts: Optimal



Reynolds Middle School: More Effective Use of Time Means Increased Instructional Opportunities

	Old Schedule	→ New Schedule
Available Instructional Facilitators/Coaches	1	6
Professional Development Time	0	3 hrs/week
Average Class Size	33	22

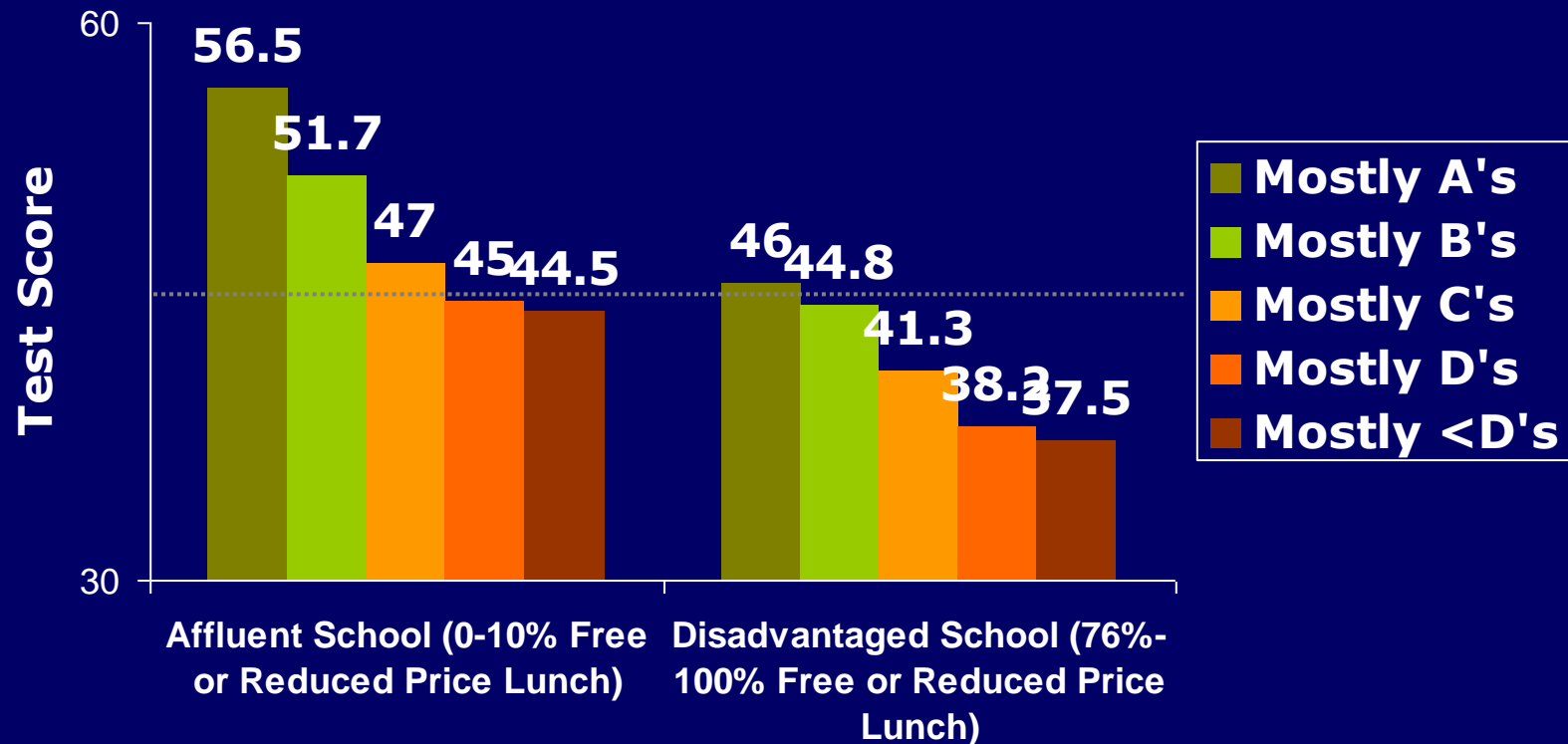


#6. Teacher and Student Work

- ✓ **grades/score analyses**
- ✓ **Standards in Practice**
- ✓ **Calibration**



"A" Students in High Poverty Schools Score at About the Same Level as "C" and "D" Students in Affluent Schools



Source: US Department of Education, Office of Educational Research and Improvement. *What Do Student Grades Mean? Difference Across Schools*. Educational Research Report (p. 3) January 1995.



Grade 10 Writing Assignment

A frequent theme in literature is the conflict between the individual and society. From literature you have read, select a character who struggled with society. In a well-developed essay, identify the character and explain why this character's conflict with society is important.



Grade 10 Writing Assignment

Write a composition of at least 4 paragraphs on Martin Luther King's most important contribution to this society. Illustrate your work with a neat cover page. Neatness counts.



Grade 7 Writing Assignment

Essay on Anne Frank

Your essay will consist of an opening paragraph which introduced the title, author and general background of the novel.

Your thesis will state specifically what Anne's overall personality is, and what general psychological and intellectual changes she exhibits over the course of the book

You might organize your essay by grouping psychological and intellectual changes OR you might choose 3 or 4 characteristics (like

friendliness, patience, optimism, self doubt) and



Grade 7 Writing Assignment

The "ME" Page

My name: _____

Three words which describe me best: _____

Three words others would use to describe me: _____

My best feature: _____

A neat expression: _____

My best friend: _____

My favorite food: _____

A chore I hate: _____

Something I wish would happen at my home: _____

My hero: _____

My favorite sport: _____

A car I want: _____

The best thing about my school: _____

My biggest secret: _____

A television character I act like: _____

My worst fear: _____

A contest I want to win: _____

My favorite movie star: _____

My heartthrob: _____

A political office I would like to hold: _____

Something I want to buy: _____

My chosen career: _____

My favorite beverage: _____

A place I want to visit: _____

A school subject I adore: _____

My favorite book: _____

A nightmare I have: _____

Someone I would like to have as a relative: _____

A movie I would like to be the star in: _____

Something I would like to do for my family: _____

A teacher I respect: _____

What I would do if I were in Hollywood: _____

A friend I would like to have: _____

What I would do to change our school: _____

My dream for America: _____

- My Best Friend
- A chore I hate
- A car I want:
- My heartthrob:



The Odyssey

Ninth Grade

High-level Assignment

Comparison/Contrast Paper Between Homer's Epic Poem, *The Odyssey* and the Movie "O Brother Where Art Thou"

By nature, humans compare and contrast all elements of their world. Why? Because in the juxtaposition of two different things, one can learn more about each individual thing as well as something about the universal nature of the things being compared.

For this 2-3 page paper you will want to ask yourself the following questions: what larger ideas do you see working in *The Odyssey* and "O Brother Where Art Thou"? Do both works treat these issues in the same way? What do the similarities and differences between the works reveal about the underlying nature of the larger idea?



The Odyssey

Ninth Grade

Low-level Assignment

Divide class into 3 groups:

Group 1 designs a brochure titled "Odyssey Cruises". The students *listen* to the story and write down all the places Odysseus visited in his adventures, and list the cost to travel from place to place.

Group 2 draws pictures of each adventure.

Group 3 takes the names of the characters in the story and gods and goddesses in the story and designs a crossword puzzle.



Standards in Practice: A Quality Control/Instructional Improvement Tool

**Developed in El Paso, Pueblo,
Philly**

- √ now in broad use**
- √ teams of teachers, 2 hours a week**
- √ is work meeting standards?**

Calibration: Are Assignments at Standard?

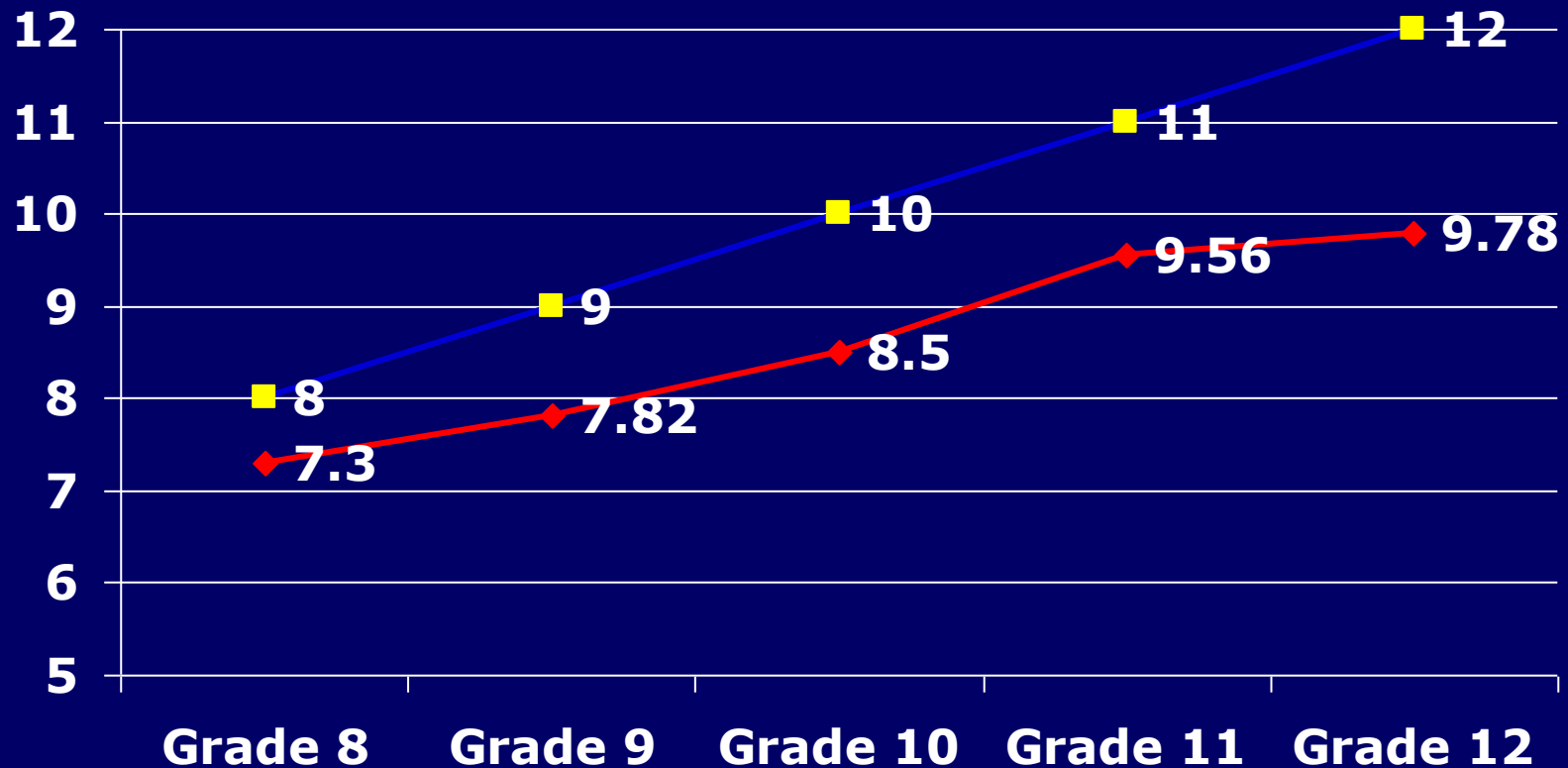
v2 week method

v"crate" method

Useful Resource:

DataWorks

14 SC Schools Calibrated



Stay connected.

Place your contact information in the **EdTrust bag** on your way out.



**BRING A TEAM TO OUR ANNUAL
CONFERENCE ON CLOSING THE
GAP**

**WHEN THE GOING GETS TOUGH:
Smart Choices and Bold Action
to Raise Achievement and Close
Gaps**

**November 12-14, 2009, in
Arlington, Va.**



The Education Trust

**1250 H Street NW – Suite 700
Washington, DC 20005
(202) 293-1217**